

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:**I claim:**

1. (Currently Amended) A measuring electrode arrangement (1) for electroimpedance tomography, having at least one measuring electrode (5) for electric contacting of a measurement object (2), whereas a storage space (7) ~~being~~ is arranged on the side of the measuring electrode (5) facing away from the measurement object (2), the storage space containing a contact medium (6) for reducing the electric contact resistance between the measuring electrode (5) and the measurement object (2), the measuring electrode (5) being at least partially permeable for the contact medium (6), ~~while~~ whereas the contact medium (6) contains ions in aqueous solution, ~~characterized in that~~ whereas the ions can ~~diffuse~~ penetrate through the measuring electrode (5), ~~whereas~~ the measuring electrode (5) is impermeable for ~~the~~ a liquid used as ~~the~~ a solvent.
2. (Currently Amended) The measuring electrode arrangement (1) according to Claim 1, ~~characterized in that~~ wherein the contact medium (6) is a liquid, a gel, a foam or a paste.
3. (Currently Amended) The measuring electrode arrangement (1) ~~according to at least one of the preceding claims~~ to Claim 1, ~~characterized in that~~ wherein an adhesive layer (3.1, 3.2) is arranged on the side of the measuring electrode arrangement (1) facing the measurement object (2) in order to attach the measuring electrode arrangement (1) to the measurement object (2).
4. (Currently Amended) The measuring electrode arrangement (1) according to ~~at least one of the preceding claims~~ Claim 1, ~~characterized in that~~ wherein the storage space (7) is bordered by a plastic layer (9).
5. (Currently Amended) The measuring electrode arrangement (1) according to ~~at least one of the preceding claims~~ Claim 1, ~~characterized by~~ further comprising at least one electric shield (11) which consists of an electrically conductive material and is electrically insulated with respect to the measuring electrode (5).

6. (Currently Amended) The measuring electrode arrangement (1) according to Claim 5, ~~characterized by~~ further comprising a plurality of measuring electrodes (5) that are electrically insulated with respect to one another.

7. (Currently Amended) The measuring electrode arrangement (1) according to Claim 6, ~~characterized by~~ further comprising a plurality of shields (11) that are electrically insulated with respect to one another, each shield being arranged on one of the measuring electrodes (5).

8. (Currently Amended) The measuring electrode arrangement (1) according to Claim 6, ~~characterized by~~ further comprising a common electric shield (11) for the measuring electrodes (5).

9. (Currently Amended) The measuring electrode arrangement (1) according to ~~at least one of claims~~ Claim 5 through 8, ~~characterized in that~~ wherein the shield (11) is ~~arranged~~ located on the side of the measuring electrode (5) facing away from the measurement object (2).

10. (Currently Amended) The measuring electrode arrangement (1) according to ~~at least one of claims~~ Claim 5 through 9, ~~characterized in that~~ wherein the measuring electrodes (5) are mounted on a belt-like electrode carrier (8), wherein the electrode carrier (8) is extensible for adjusting the electrode spacing.

11. (Currently Amended) A use of a measuring electrode arrangement (1) according to ~~at least one of the preceding claims~~ Claim 1 for electroimpedance tomography.